

Enova® DGX 64 Enclosure

DGX64-ENC (FG1060-64)



Overview

The Enova DGX 64 Enclosure is an industry leading Digital Media Switcher that includes an integrated NetLinx NX Series Central Control Processor, redundant power supplies and can be populated with Enova DGX video input and output boards in addition to optional audio insert/extract boards. There are four connections per video board, and each enclosure holds 16 video input boards and 16 video output boards for a maximum matrix of 64x64. The Enova DGX 64 is capable of supporting 4K and Ultra High Definition (UHD) content.

The Enova DGX functions as the centerpiece of a complete integrated solution that manages and distributes analog and digital audio and video including HDMI/HDCP, control and Ethernet. Easily integrate HDCP into system designs and enjoy hassle-free plug-and-play operation. A comprehensive set of Enova DGX hot swappable boards can be used in conjunction with DXLink and DGX Transmitters and Receivers to provide an end-to-end distribution system over twisted pair cable or fiber. The integrated NX Series Central Control Processor supports wired 802.1x for enhanced security authentication and IPv6 for the most modern IP addressing. An embedded Ethernet switch

enables management of the entire solution including source equipment and display devices located throughout the environment – all from a single point of control.

The Enova DGX features AMX's exclusive InstaGate Pro® Technology which eliminates HDCP delays, plus InstaGate Pro allows traditionally key limited sources to be switched freely to all connected HDCP compliant displays – eliminating HDCP key limitations that plague large applications. Built-in SmartScale® Technology on every output provides video that is perfectly scaled for each connected display, eliminating the integration challenges that can occur when sources and displays have different supported resolutions. With the powerful combination of analog-to-digital signal conversion, video scaling and high speed digital switching the system delivers perfect video every time – regardless of signal type.

When paired with DXLink Twisted Pair and Fiber Transmitters/Receivers, this solution makes it easy to send analog or digital audio and video including HDMI with HDCP signals, plus control 10 Km over single mode fiber or 300 meters over multimode fiber; send all this plus power up to 100 meters over standard twisted pair cable to and from the Enova DGX.

Common Applications

- The Enova DGX is ideal for dramatically simplifying AV control and distribution in large spaces such as lecture halls, auditoriums, hotel ballrooms, casinos, museums and stadiums/arenas.
- The Enova DGX is ideally suited for multi-room or configurable room applications, where multiple collaboration spaces share a single DGX for control.
- Enova DGX fiber capabilities enable transport of audio, video and control up to 10 Km making it a perfect solution for tall buildings with multiple floors, large campuses with multiple buildings or large facilities such as a factory.
- Enova DGX fiber solutions provide secure distribution of content for applications which data security is critical such as government, banking/finance or network operation centers.

Features

- **AV and Control over Twisted Pair, Fiber or Both** – Send audio, video, bi-directional control and Ethernet over twisted pair or fiber cable, or integrate both into the same system
- **HDMI/HDCP Switching** – End-to-end distribution of HDMI/HDCP without interruption or key constraints using InstaGate Pro® Technology
- **Optimal Video Image Quality Every Time** – Exclusive SmartScale™ Technology automatically scales the image to the best resolution and video parameters for each display – even for displays of different information – without manual setup, eliminating the need for costly external scalers
- **High Speed Digital Switching** – 26 Gbps ensures perfect pixel for pixel reproduction of video
- **Embedded NetLinx NX Central Control Processor** – Allows any connected device to be managed, monitored or controlled
- **IPv6 and wired 802.1x** – Supports modern networking standards
- **Integrated Ethernet Switch** – Pass Ethernet through the attached DXLink Twisted Pair or Fiber Transmitters and Receivers
- **4K and Ultra high Definition (UHD) Content Ready** – Designed to support future resolutions for years to come.
- **InstaGate Pro Technology** – Easily integrate HDCP into system designs and enjoy hassle-free matrix switching to all compliant displays. No tools, no delays, and no key constraints – it just works
- **SmartScale Technology** – Automatically responds to the display's declared EDID information and scales the video to the best resolution and video parameters for that display without manual setup; this prevents inferior video quality when sources are forced to lower resolutions to support the least capable display in the system
- **DXLink Twisted Pair Input and Output Boards** – HDCP Compliant boards send audio, video, control, Ethernet and power over one standard twisted pair cable up to 200 m – 100 m to the matrix switcher and 100 m after the matrix switcher, see the [Cabling for Success with DXLink](#) white paper for more details
- **Fiber Your Way** – DXLink Fiber boards are available in single mode or multimode; simplex or duplex
- **Easily Convert Analog to Digital Signals** – Use the Enova DGX Digital Media Switcher in conjunction with DXLink Multi-Format Transmitters (Twisted Pair or Fiber), and easily integrate legacy analog sources and automatically convert their signals to digital

- **Hot Swappable Video Input / Output Boards** – Easily add or replace I/O boards at any time after deployment - the system automatically recognizes the new configuration and activates the boards
- **Audio Insert / Extract Boards** – Add audio from a local source or extract embedded audio and send to a separate audio system to distribute throughout an environment
- **3D Support** – Pass through latest video formats including 3D and Deep Color
- **Surround Sound Support** – Pass through high definition surround sound including Dolby TrueHD, Dolby Digital, DTS-HD Master Audio, DTS, and 2-channel through 8-channel L-PCM
- **Fully Redundant Power Supplies With Independent Power Paths** – Ensures maximum reliability for applications that require 24/7 uptime

Specifications

GENERAL	
Supported Signal Styles/Compatible Input and Output Boards	<p>For audio, video and transport specifications please see the data sheets for Enova DGX compatible Input / Output Boards:</p> <ul style="list-style-type: none"> •DGX-I-HDMI, Enova DGX HDMI Input Board (FG1058-540) •DGX-O-HDMI, Enova DGX HDMI Output Board (FG1058-550) •DGX-I-DVI, Enova DGX DVI Input Board (FG1058-600) •DGX-O-DVI, Enova DGX DVI Output Board (FG1058-610) •DGX-I-DXL, Enova DGX DXLink Twisted Pair Input Board (FG1058-570) •DGX-O-DXL, Enova DGX DXLink Twisted Pair Output Board (FG1058-580) •DGX-I-DXF-MMD, Enova DGX DXLink Multimode Fiber Input Board, Duplex (FG1058-622) •DGX-O-DXF-MMD, Enova DGX DXLink Multimode Fiber Output Board, Duplex (FG1058-632) •DGX-I-DXF-MMS, Enova DGX DXLink Multimode Fiber Input Board, Simplex (FG1058-623) •DGX-O-DXF-MMS, Enova DGX DXLink Multimode Fiber Output Board, Simplex (FG1058-633) •DGX-I-DXF-SMD, Enova DGX DXLink Single Mode Fiber Input Board, Duplex (FG1058-620) •DGX-O-DXF-SMD, Enova DGX DXLink Single Mode Fiber Output Board, Duplex (FG1058-630) •DGX-I-DXF-SMS, Enova DGX DXLink Single Mode Fiber Input Board, Simplex (FG1058-621) •DGX-O-DXF-SMS, Enova DGX DXLink Single Mode Fiber Output Board, Simplex (FG1058-631) •DGX-AIE, Enova DGX Audio Insert / Extract Board (FG1058-705) <p>Note: Use fiber duplex models for bidirectional control over fiber. Simplex models do not support control transport over fiber(such as Ethernet, USB, IR, Serial Control or EDID); although when used as part of a complete Enova DGX solution, control can be provided if a supplemental independent network connection is used. See the "Instruction Manual – Enova DGX Digital Media Switchers" for details.</p>
Dimensions (HWD) with Mounting Ears	22 3/4" x 18 15/16" x 20" (57.71 cm x 48.15 cm x 50.78 cm)
Dimensions (HWD) with Extractors and Mounting Ears	22 3/4" x 18 15/16" x 20 1/8" (57.71 cm x 48.15 cm x 53.70 cm)

Rack Units	13
Weight	Approximately 150 lbs (68 kg) per loaded enclosure
Shipping Weight	Approximately 257 lbs (116.6 kg) per loaded enclosure
MTBF	86,000 hrs
Per Channel Aggregate Data Rate (Max)	26 Gbps
Noise Level	< 50.1 dBA @ 1m (Typical @ 25°C)
Airflow	Forced Air (inlet on sides, exhaust on back & top)
Regulatory Compliance	<ul style="list-style-type: none"> •FCC CFR Title 47 Part 15 Subpart B Class A •CE EN 55022 Class A •CE EN 55024 •CE EN 60950-1 •IEC 60950-1 •ICES-003 Class A •CSA 60950-1 •UL 60950-1 •RoHS / WEEE Compliant
Recommended Accessories	<ul style="list-style-type: none"> •EXB-IRS4 ICSLan IR/S Interface, 4 IR/S and 4 Inputs (FG2100-23) •EXB-COM2 ICSLan Serial Interface, 2 Ports (FG2100-22) •EXB-REL8 ICSLan Relay Interface, 8 Channels (FG2100-20) •EXB-I/O8 ICSLan Input/Output Interface, 8 Channels (FG2100-21) •EXB-MP1 ICSLan Multi-Port, 1 COM, 1 IR/S, 2 I/O, 1 IR RX (FG2100-26) •CBL-HDMI-FL HDMI High Speed Flat Cable with RedMere Technology (FG10-2180-16) •CBL-RGB+A-FL RGB with Audio Flat Cable (FG10-2183-16) •DGX64-CPU-NX, Enova DGX 64 CPU Replacement Kit (FG1060-164K) •FAN REPLACEMENT KIT (FG1060-110K) •BATTERY REPLACEMENT KIT (FG1060-120K) <p>Note: Compatible boards are listed above under “supported signal styles/compatible input and output boards”. Transmitter, Receiver and Digital Switcher compatibility is dependent on board selection, please see the data sheet for the selected board for compatible Transmitters, Receivers and Digital Switchers</p>

ACTIVE POWER REQUIREMENTS	
AC Power	100-240 VAC single phase, 50-60 Hz
Power Capacity (Max)	3960 Watts, @ 110 VAC 5189 Watts, @ 230 VAC
Power Consumption (Max)	3240 Watts, fully loaded DXLink Power enclosure
Power Consumption (Typ)	1024 Watts, fully loaded HDMI enclosure
Power Factor Correction	Supported, complies with EN60555-2 and EN61000-3-2

USB (HID) KEYBOARD & MOUSE	
USB (HID)	Use the Enova DGX Digital Media Switcher in conjunction with DXLink Transmitters and Receivers (twisted pair and/or fiber), connect a DXLink Transmitter to a PC and a DXLink Receiver to a keyboard and mouse, the system then emulates commands from the receiver back to the PC. The Solecis SDX-510M-DX functions as a DXLink

	<p>Transmitter in this scenario.</p> <p>For a list of HID devices which have been tested and found to be working well with the latest firmware please view the document: DXLink HID Keyboard and Mouse Supported Devices</p>
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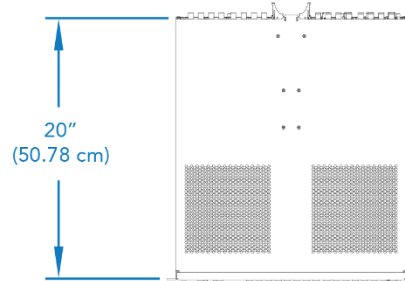
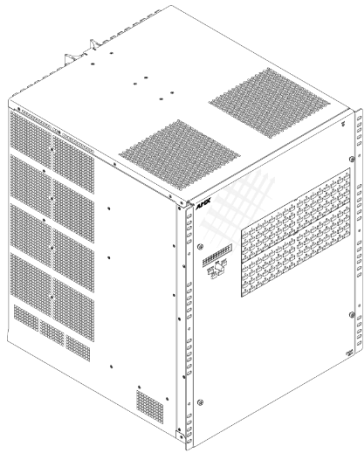
ENVIRONMENTAL	
Heat Dissipation Full Capacity	13524 BTU/hr, @ 110 VAC 17721 BTU/hr, @ 230 VAC
Heat Dissipation (Max)	11065 BTU/hr, fully loaded DXLink Power enclosure
Heat Dissipation (Typ)	3497 BTU/hr, fully loaded HDMI enclosure
Humidity (Operating)	5% to 85% RH (non-condensing)
Humidity (Storage)	0% to 90% RH (non-condensing)
Temperature (Operating)	32° to 104° F (0° to 40° C)
Temperature (Storage)	-22° to +158° F (-30° to +70° C)

INTEGRATED CONTROLLER	
LAN/Ethernet Port	<p>(1) RJ-45 Connector, NetLinx On Board Master is an NX Class Controller TCP/IP Uplink Port (LAN 10/100/1000)</p> <p>Supports up to 64-Port Unmanaged 10/100 Ethernet Switch (Cascaded architecture actual throughput dependent on loading. Worst case per port throughput 7 Mbps, best case 100 Mbps when used with 64 DXLink Transmitters and 64 DXLink Receivers)</p> <p>Static IP or DHCP/DNS, SSL, Auto-negotiating, Half/Full duplex, Auto MDI/MDI-X Cross-Over TCP/IP, UDP/IP, CIP, SMTP, SNMP, Built-in Web server Includes support for DXLink Devices</p>
Processor	1600 MIPS
Memory	SDRAM 512 MB NVRAM 1 MB Flash 8 GB
Program Port (USB)	USB Mini-AB (used for NetLinx Studio control)

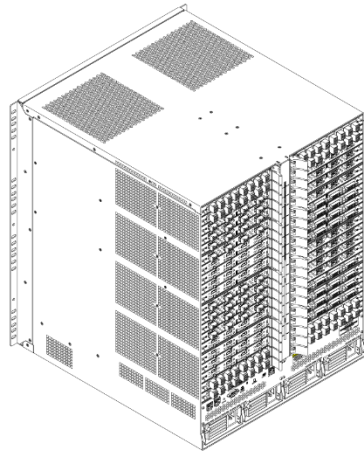
ENCLOSURE CONTROL	
Control Port (Serial)	(1) DB-9 Connector, Bidirectional RS-232, Baud Rates of 9600 (default), 19200, 38400, 57600
Control Port (USB)	(1) USB Mini-B



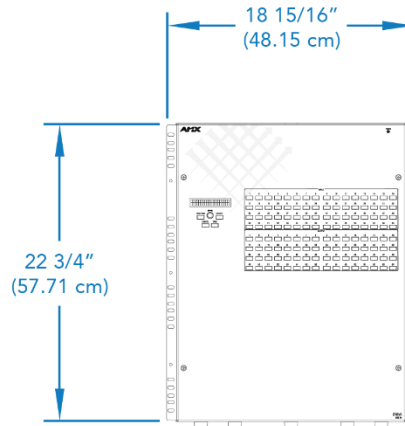
For a more detailed PDF or DXF pictorial drawing please visit: <http://www.amx.com/products/DGX64-ENC.asp>



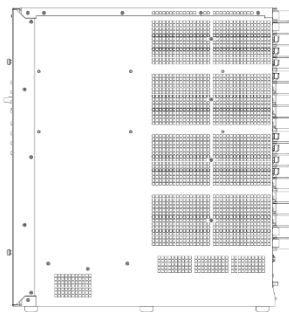
DGX64-ENC
(Top View)



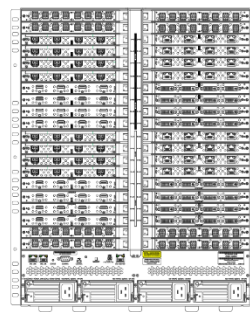
DGX64-ENC
(Isometric Views)



DGX64-ENC
(Front View)



DGX64-ENC
(Right View)



DGX64-ENC
(Back View)

About AMX by HARMAN

Founded in 1982 and acquired by HARMAN in 2014, AMX® is dedicated to providing AV solutions for an IT World. AMX solves the complexity of managing technology with reliable, consistent and scalable systems comprising control, video switching and distribution, digital signage and technology management. AMX systems are deployed worldwide in conference rooms, classrooms, network operation/command centers, homes, hotels, entertainment venues and broadcast facilities, among others. AMX is part of the HARMAN Professional Group, the only total audio, video, lighting, and control vendor in the professional AV market. HARMAN designs, manufactures and markets premier audio, video, infotainment and integrated control solutions for the automotive, consumer and professional markets. Revised 11.20.14. ©2014 Harman. All rights reserved. Specifications subject to change.

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